CLAIMS

1. Optical arrangement comprising two parallel plates (3, 5, 5') each with a through-hole (3A, 5A, 5'A) forming an optical input/output with a given optical axis and an at least partly optical component (4, 12) placed between the plates, the component (4, 12) and a first of the plates (3) comprising first fastening studs (8) placed transversely opposite the plate and connected by first bumps (7) made of a meltable material that when molten is able to selectively wet these first fastening studs in order to optically align the component and the input/output of the first plate, and the two plates (3, 5, 5') comprising second fastening studs (11) placed transversely opposite the plate and connected by second bumps (10) made of a meltable material that when molten is able to selectively wet the second fastening studs in order to optically align the inputs/outputs on the two plates.

2. Arrangement according to claim 1, characterized in that it comprises a second at least partly optical component (12) placed between the first component (4) and the second plate (5'), the second component and one of the plates having third fastening studs (15) placed transversely opposite the plate and connected by third bumps (14) made of a meltable material that when molten is able to selectively wet the third fastening studs in order to optically align the second component and the input/output on the plate to which it is fixed by the third bumps.

3. Arrangement according to claim 2, characterized in that the second component (12) is fixed to the second plate (5') by the third bumps.

4. Arrangement according to any one of claims 1 to 3, characterized in that each meltable material (7, 10, 14) is selected from a group comprising indium, tin-lead, indium-lead, silver-tin, antimony-tin and tin-silver-copper alloys.

5. Arrangement according to any one of claims 1 to 4, characterized in that all of the bumps (7, 10, 14) are made of the same meltable material.

6. Arrangement according to any one of claims 1 to 5, characterized in that the fastening studs (8, 11, 15) are made of a material selected from a group comprising copper, nickel, silver and gold.

7. Arrangement according to any one of claims 1 to 6, characterized in that all of the fastening studs (8, 11, 15) are made of the same material.

8. Arrangement according to any one of claims 1 to 7, characterized in that the first plate and the component each have an electrical interconnection network and the first fastening studs are metal and connected to a respective one of the networks, the meltable material being an electric conductor.

9. Arrangement according to any one of claims 1 to 8, characterized in that at least one at least partly optical component is an optical filter.

10. Arrangement according to any one of claims 1 to 8, characterized in that at least one at least partly optical component is a variable optical attenuator.

11. Arrangement according to any one of claims 1 to 8, characterized in that at least one at least partly optical component is an electro-optic modulator.

12. Arrangement according to any one of claims 1 to 8, characterized in that at least one at least partly optical component is a wavelength-selective photodetector.

13. Arrangement according to any one of claims 1 to 8, characterized in that at least one at least partly optical component is an optically pumpable laser cavity.

14. Arrangement according to any one of claims 1 to 8, characterized in that at least one at least partly optical component is a micro-lens.

15. Arrangement according to any one of claims 1 to 14, characterized in that the first component (4) is mounted between 10 and 100 microns away from the first plate (3).

16. Arrangement according to any one of claims 1 to 15, characterized that each plate is made of silicon.

17. Arrangement according to any one of claims 1 to 16, characterized in that it also comprises a fibre (6, 9) engaged in at least one of the holes forming the inputs/outputs.

18. Arrangement according to any one of claims 1 to 17, characterized in that at least one of the holes forming the inputs/outputs is filled with a material that is transparent to light signals.

19. Production method for an arrangement comprising first and second plates and at least one at least partly optical component, according to which:

- a hole (3A, 5A, 5'A) designed to form an optical input/output is made in each of two plates (3, 5, 5'),
- first fastening studs (8) are formed on the first plate and the component and are adapted to be selectively wetted by a meltable material whilst the area around the studs is much less wettable by the material, the first fastening studs being placed so that they can come into opposite relationship transversely of the plate,
- second fastening studs (11) are formed on the first and second plates and are adapted to be selectively wetted by a meltable material whilst the area around the studs is much less wettable by the material, the second fastening studs being placed so that they can come into opposite relationship transversely of the plates,
- disks (7) made of the meltable material that can selectively wet the first fastening studs are placed between them and are temporarily melted in order to passively align the component and the hole in the first plate,
- disks (10) made of the meltable material that can selectively wet the second fastening studs are placed between them and are temporarily melted in order to passively align the holes in the plates.

20. Method according to claim 19, according to which third fastening studs (15) are formed on one of the plates and a second component (12) and are adapted to be selectively wetted by a meltable material whilst the area around the third studs is much less wettable by the material, the third studs being placed so that they can come into opposite relationship transversely of the plate and, before the two plates are aligned with each other, disks (14) made of the meltable material that can selectively wet the third fastening studs are placed between them and temporarily melted in order to passively align the second component and the hole in the plate.

21. Method according to claim 20, characterized in that the third fastening studs are formed on the component and the second plate.

22. Method according to any one of claims 19 to 21, characterized in that the disks are made of the same material.

23. Method according to any one of claims 19 to 22, characterized in that the fastening studs are made of the same material.